AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A computer-implemented method for preparing a design in a high-level modeling system, comprising:

generating hardware description language (HDL) code for one or more of a plurality of high-level subsystems in a high-level design tagged by a user for HDL code generation; [[and]]

reusing previously generated HDL code instead of generating new HDL code for each high-level subsystem tagged by the user for HDL code reuse; and

for each high-level subsystem for which HDL code is generated, displaying for the user a first block, a second block, and a simulation-multiplexer block having input ports coupled to output ports of the first and second blocks, wherein the first block represents a high-level subsystem, the second block represents HDL code generated from the high-level subsystem, and the simulation multiplexer block has a user-configurable attribute that specifies whether the previously generated HDL code is to be reused.

2. (Original) The method of claim 1, further comprising:

detecting whether one or more attributes of a high-level subsystem have changed since HDL code for the high-level subsystem was previously generated; and

if one or more attributes of the high-level subsystem have changed, then generating new HDL code for the high-level subsystem in place of the previously generated HDL code.

Claim 3. (Cancelled)

4. (Original) The method of claim 1, further comprising, for each high-level subsystem for which HDL code has been generated, simulating a selected one of the high-level subsystem and the HDL code in response to a user-specified selection.

5. (Currently Amended)   The method of claim 4, <u>wherein</u> ~~further comprising for each high-level subsystem for which HDL code is generated, displaying for the user a first block, a second block, and a simulation-multiplexer block having input ports coupled to output ports of the first and second blocks, wherein the first block represents a high-level subsystem, the second block represents HDL code generated from the high-level subsystem, and~~ the simulation multiplexer block has <u>a</u> user-configurable attribute[[s]] ~~that control whether the previously generated HDL code is to be reused and~~ that selects either the high-level subsystem or the associated HDL code for simulation.

Claim 6.   (Cancelled)

7. (Currently Amended)   The method of claim of claim 1, further comprising:

providing a user-selectable token object for placement in association with a high-level subsystem, wherein the token object has a user-configurable attribute that controls whether HDL code generated from the high-level subsystem is connected to the design and represented as a black box in association with the high-level subsystem; and

for each high-level subsystem having an associated black box, displaying for the user <u>the</u> [[a]] first block, [[a]] <u>the</u> second block, and [[a]] <u>the</u> simulation-multiplexer block ~~having input ports coupled to output ports of the first and second blocks, wherein the first block represents the high-level subsystem, the second block represents the black box, and the simulation multiplexer block has user-configurable attributes that control whether the previously generated HDL code is to be reused and that select one of the high-level subsystem and the associated HDL code for simulation~~.

8. (Original)   The method of claim 7, wherein the token object further comprises attributes that specify characteristics of a device to which the HDL code is targeted.

9. (Original)   The method of claim 8, wherein the token object further comprises attributes that specify a tool to be used for synthesis.

10. (Original) The method of claim 9, wherein the token object further comprises attributes that specify a target location for storing the HDL code.

Claim 11. (Cancelled)

12. (Original) A computer-implemented method for preparing a design in a high-level modeling system, comprising:

providing a user-selectable token object for placement in association with a high-level subsystem, wherein the token object has a user-configurable attribute that controls whether HDL code generated from the high-level subsystem is connected to the design and represented as a black box in association with the high-level subsystem;

for each high-level subsystem having an associated black box, displaying for the user a first block, a second block, and a simulation-multiplexer block having input ports coupled to output ports of the first and second blocks, wherein the first block represents the high-level subsystem, the second block represents the black box, and the simulation multiplexer block has user-configurable attributes that control whether the previously generated HDL code is to be reused and that select one of the high-level subsystem and the associated HDL code for simulation;

detecting whether one or more attributes of a high-level subsystem have changed since HDL code for the subsystem was previously generated;

reusing previously generated HDL code instead of generating new HDL code for each high-level subsystem tagged by the user for HDL code reuse if no attributes of a high-level subsystem have changed; and

if one or more attributes of the high-level subsystem have changed, then generating new HDL code for the high-level subsystem in place of the previously generated HDL code.

13. (Original) The method of claim 12, wherein the token object further comprises attributes that specify characteristics of a device to which the HDL code is targeted.

14.   (Original)   The method of claim 13, wherein the token object further comprises attributes that specify a tool to be used for synthesis.

15.   (Original)   The method of claim 14, wherein the token object further comprises attributes that specify a target location for storing the HDL code.

16.   (Currently amended)   An apparatus for preparing a design in a high-level modeling system, comprising:

    means for generating hardware description language (HDL) code for one or more of a plurality of high-level subsystems in a high-level design tagged by the user for HDL code generation; [[and]]

    means for reusing previously generated HDL code instead of generating new HDL code for each high-level subsystem tagged by the user for HDL code reuse; and

    means for displaying to a user for each high-level subsystem for which HDL code is generated, a first block, a second block, and a simulation-multiplexer block having input ports coupled to output ports of the first and second blocks, wherein the first block represents a high-level subsystem, the second block represents HDL code generated from the high-level subsystem, and the simulation multiplexer block has a user-configurable attribute that specifies whether the previously generated HDL code is to be reused.

17.   (Original)   The apparatus of claim 16, further comprising:

    means for detecting whether one or more attributes of a high-level subsystem have changed since HDL code for the high-level subsystem was previously generated; and

    means for controlling whether new HDL code is generated for the high-level subsystem in place of the previously generated HDL code in response to a changed one or more of the attributes of the high-level subsystem.

18.   (Currently amended)   An article of manufacture for preparing a design in a high-level modeling system, comprising:

a computer-readable medium configured with instructions for causing a

processor arrangement to perform the steps of,

      generating hardware description language (HDL) code for one or more of

a plurality of high-level subsystems in a high-level design tagged by the user for

HDL code generation; [[and]]

      reusing previously generated HDL code instead of generating new HDL

code for each subsystem tagged by the user for HDL code reuse; and

      for each high-level subsystem for which HDL code is generated,

displaying for the user a first block, a second block, and a simulation-multiplexer

block having input ports coupled to output ports of the first and second blocks,

wherein the first block represents a high-level subsystem, the second block

represents HDL code generated from the high-level subsystem, and the

simulation multiplexer block has a user-configurable attribute that specifies

whether the previously generated HDL code is to be reused.

19. (Original) The article of manufacture of claim 18, wherein the computer-readable

medium is further configured with instructions for causing the processor arrangement

to perform the steps of,

      detecting whether one or more attributes of a high-level subsystem have

changed since HDL code for the subsystem was previously generated; and

      if one or more attributes of the subsystem have changed, then generating new

HDL code for the subsystem in place of the previously generated HDL code.

Claim 20. (Cancelled)

21. (Original) The article of manufacture of claim 18, wherein the computer-readable

medium is further configured with instructions for causing the processor arrangement

to perform the step of, for each high-level subsystem for which HDL code has been

generated, simulating a user-selected one of the high-level subsystem and the HDL

code in response to a user-specified selection.

22. (Currently Amended)   The article of manufacture of claim 21, wherein ~~the~~
~~computer-readable medium is further configured with instructions for causing the~~
~~processor arrangement to perform the step of, for each subsystem for which HDL code~~
~~is generated, displaying for the user a first block, a second block, and a simulation-~~
~~multiplexer block having input ports coupled to output ports of the first and second~~
~~blocks, wherein the first block represents a high-level subsystem, the second block~~
~~represents the HDL code generated from the high-level subsystem, and~~ the simulation
multiplexer block has a user-configurable attribute~~s that control whether the previously~~
~~generated HDL code is to be reused and~~ that select_s one of the high-level subsystem
and the associated HDL code for simulation.

Claim 23. (Cancelled)

24. (Currently Amended)   The article of manufacture of claim of claim 18, wherein
the computer-readable medium is further configured with instructions for causing the
processor arrangement to perform the steps comprising:

        providing a user-selectable token object for placement in association with a
high-level subsystem, wherein the token object has a user-configurable attribute that
controls whether HDL code generated from the high-level subsystem is connected to
the design and represented as a black box in association with the high-level
subsystem; and

        for each high-level subsystem having an associated black box, displaying for
the user the [[a]] first block, the [[a]] second block, and the [[a]] simulation-multiplexer
block ~~having input ports coupled to output ports of the first and second blocks, wherein~~
~~the first block represents the high-level subsystem, the second block represents the~~
~~black box, and the simulation multiplexer block has user-configurable attributes that~~
~~control whether the previously generated HDL code is to be reused and that select one~~
~~of the high-level subsystem and the associated HDL code for simulation.~~